SECTION 2 - HYDROMETEOROLOGICAL AUTOMATED DATA SYSTEM PROCEDURES

2.0 Introduction

This section provides information on Hydrometeorological Automated Data System (HADS) operations procedures. It is comprised of four subsections:

2.1 Operations Procedures

This section describes how HADS is managed and how its operation is coordinated with other offices.

2.2 Problem Reporting

This section describes the support personnel to be contacted for particular questions or problems.

2.3 Software Change Management

This section defines the HADS Software Change Management process.

2.4 Network Change Management

This section defines the HADS Network Change Management process.

Section 2.1 Operations Procedures

Operation and maintenance of HADS are directed by a HADS Program Manager designated by the Director, Office of Hydrologic Development (OHD). Several other key OHD, Telecommunications Operations Center (TOC), and National Environmental Satellite, Data, and Information Service (NESDIS) personnel are involved in the operation of the system. The duties and responsibilities of these people are described below. (See points of contact at the end of this section for HADS Management Contact information.)

Office of Hydrologic Development

HADS Program Manager

The HADS Project Manager provides the overall technical supervision and direction of the design, development, implementation, and operation of HADS. This person is responsible for the coordination and planning of all implementation and operational activities with National Weather Service (NWS) field offices.

The HADS Program Manager's specific duties are as follows:

- Determines and requests resources needed to enhance, maintain, and operate the HADS
- Acts as the Change Manager and coordinates plans with Regional Offices for implementing major changes to the system
- Develops appropriate reference guidelines for policy, procedures, and instructions used to manage and operate the system
- Serves as a focal point for technical coordination and control of system design and development
- Reviews and approves major design changes as recommended. Coordinates and develops system integration and test plans and determines the schedule for operational testing and implementation
- Requests and assigns OHD personnel as needed to accomplish specific system responsibilities, such as follows:
    - System Management
    - Network Management
    - Documentation
- Prepares and delivers progress briefings on major enhancements and routine operations
- Develops, implements and monitors the HADS Internet WEB pages

HADS Lead Programmer

The HADS Lead Programmer is responsible for the overall development, integration testing, and implementation of all operational software. The HADS Lead Programmer is also responsible for maintaining a satisfactory day-to-day operational status to ensure timely delivery of HADS products to NWS field offices.

The HADS Lead Programmer's specific duties are as follows:

- Provides and maintains separate sets of development, test, and production software and data files
- Provides for total system backup of program, control, and data files
- Monitors and authorizes the progression of newly developed software through the development and test phases
- Coordinates, after thorough testing, the implementation of new software with approval from the Program Manager
- Coordinates and monitors the investigation and resolution of all System Trouble Reports
- Reviews and validates general software maintenance requests and requests for software modifications and recommends appropriate action to the HADS Program Manager for approval
- Develops, implements and monitors the HADS Internet WEB pages

HADS System Manager

- Provides for total system backup of program, control, and database tables
- Monitors the performance of all aspects of HADS processing
- In conjunction with the HADS Lead Programmer, develops enhancements to HADS software with approval from the Project Manager.
- Coordinates and monitors the investigation and resolution of database related System Trouble Reports.
- Maintains the integrity of the HADS database tables across multiple operational computing platforms.
- Develops, implements and monitors the HADS Internet WEB pages.

HADS Network Manager

The HADS Network Manager maintains the National HADS network.

The HADS Network Manager's specific duties are as follows:

- Maintains the HADS network, i.e., authorizes and coordinates the inclusion of all new Geostationary Operational Environmental Satellite Data Collection Platforms (GOES DCP) to the network in accordance with requirements of user(s).
- Coordinates and provides for the orderly processing of all requests for changes to DCP definition.
- Coordinates with DCP owner agencies and field offices information regarding the programming characteristics of DCP sites.
- Assists in defining reports for NWS field offices on request, using the HADS Web based User's Report Interface
- Monitors and assists River Forecast Centers (RFC) and Weather Forecast Offices (WFO) on the use of the HADS report generation features.

Telecommunication Operations Center

NWSTG Tech Control

Tech Control maintains the real-time operation of the communication interface between the GOES DCS and the NWS Telecommunications Gateway (NWSTG), as well as the NWSTG to HADS interface. It receives inquiries from field sites concerning the delivery of HADS products.

NESDIS

DCS Coordinator

Coordination between the NESDIS DCS/DAPS and the many users of the DCS, including NWS GOES DCS operators and the HADS team.

DAPS Operators

Daily operation of DCS Automatic Processing System (DAPS) is maintained by the DAPS Operator. Outages of 1 hour that are expected to continue will be reported by the DAPS Operator to Tech Control at the NWSTG.

Section 2.2 Problem Reporting

Two e-mail addresses are available for contacting HADS personnel.

Use hadsteam@gateway2.nws.noaa.gov to report data quality issues.

Use hadssystem@gateway2.nws.noaa.gov to report problems involving Web Page access, missing or incorrect report content.

Users should report apparent HADS system or software problems directly to the Hydrologic Data Systems Branch (HDSB) of the Hydrologic Laboratory (HL). System and software problems include the following: missing or late products, missing or incorrectly coded DCPs, missing or suspect data values, or any other problems of an unknown nature. During normal business hours, HDSB will coordinate problem resolution with OSO and NESDIS. After hours, contact appropriate HADS personnel as previously defined by internal OHD/HL/HDSB documentation.

Before reporting a problem, first check the following:

- Is your AWIPS equipment functioning properly? Are you receiving products via the SBN.
- Are settings in the SHEF Decoder (range checks) effecting the storage of data for a particular reporting location?
- Have the HADS web pages been viewed for system status or have HADS administrative messages been received. Via the AWIPS product NOUS71 KWOH.
- Check HADS_NEWS messages and e-mail messages from the HADS program office.

Section 2.2.1 HADS Problem Resolution

The following lists the types of problems that should be brought to the attention of the various HADS managers:

HADS Program Manager
- to report an extended outage
- to report problems in obtaining assistance
- to report missing, late, or garbled products

HADS Lead Programer and HADS System Manager
- to report missing, late, or garbled products
- to report an apparent software problem
- to report outages of an unknown nature
- to report difficulties accessing or using an interactive Web Page

HADS Network Manager
- to report missing data
- to report data quality problems

Section 2.3 Software Change Management

Software and system changes are anticipated to implement desirable enhancements, to correct discovered deficiencies, and to modify the capabilities of the system to more efficiently fulfill field requirements.

Network changes are constant in this dynamic data network. The varying levels of coordination required by the two types of changes dictate two separate mechanisms to track the changes.

Software/System Changes

A formal procedure will be followed when making changes to the HADS Software. Anyone may request a change. These requests should be directed to the HADS Program Manager. Changes that require field review will be sent out and finalized before going on to the next step. Major changes require field review of Functional Specification. Software changes will be prioritized by the Program Manager.

There are three sets of software and data files to allow for thorough testing of new software. The software developers will make the necessary coding changes and will test the new software on their own set of data files.

The users will be notified of any software changes that affect the content of HADS data reports or effect the interactions with HADS Web based interfaces.

There are many functions within the HADS processing systems that exist solely for the use of HADS Network technicians, changes of this nature will not be advertised to HADS data users.

Successfully tested and necessary changes will be placed into operational mode only during the weekdays of Monday through Thursday.

Section 2.3 - Network Management Procedures

All changes to the HADS data network are posted to the HADS Internet Web site and are distributed to HADS focal points at all NWS field offices in order to keep personnel informed of the activities in this dynamic network.

For each day and for each data site definition changed, the HADS Web page and the HADS focal point e-mail messages will contain entries that explain exactly which elements of a site's definition was recently modified.

The users of HADS, the HADS Network Manager and HADS Network Technicians have responsibilities for HADS Network Management.

New DCPs are constantly being added and existing ones modified in the NESDIS DCS by the NWS and other agencies.

DCPs are frequently reprogrammed by the owner/operator of the DCP. The owner/operator is expected to update their Platform Definition Table (PDT) within the NESDIS GOES DAPS to reflect any changes. In many cases, the owner/operator re-programs a DCP but does not update the PDT in real time within DAPS. This creates data quality problems on the user reports generated by HADS.

NWS field offices should be alerted that a problem may exist when data from a DCP site is no longer received or when sudden erratic changes to data values appear in their report content. This can occur due to the following actions:

- The DCP stopped transmitting
- The DCP time of transmission changed from the official NESDIS scheduled transmission time
- The DCP type or it's raw data format was changed by the owner/operator of the DCP.
- The HADS site definition parameters for a DCP site were entered incorrectly by the HADS Network Manager.

Incorrect data values appear on HADS data reports if any of the following occurs:

- Parameter order on the DCP is changed,
- Sensor data units on the DCP are changed, or
- Scaling factors on the DCP are changed.

The HADS Network Manager has responsibilities in quality controlling the hydrometeorological data contained in HADS data reports.

Section 2.4.1 - NWS Field Responsibility

The Regional HADS Focal Points are responsible for coordinating with OHD any regional requirements pertaining to HADS.

Each NWS field office that receives hydrometeorological data reports from HADS will have a HADS Focal Point (HFP), typically the Service Hydrologist (SH) or Hydrology Program Manager.

The HFP/SH is responsible for reviewing the daily HADS information messages that are sent via electronic mail to each office. These messages are also posted on the HADS Internet WEB page in order to provide a redundant and long term record of the daily changes to the HADS data network.

The HFP/SH is responsible for monitoring HADS data reports on a daily basis and for the quality control of these reports. If a field office notices incorrect values in HADS reports, they should report it to the HADS Network Manager.

NWS field offices must perform the following functions in order to add a new DCP site to the network..... The HFP/SH, in coordination with personnel at adjacent HSA offices and the appropriate RFCs, verify that an appropriate NWSLI is established. The NWSLI information is can then be sent to HADS personnel ... typically via an e-mail addressed to:

hadsteam@gateway2.nws.noaa.gov

The National Weather Services Location Identifier (NWSLI) system was updated in February 2003 to include an operational function to automatically notify HADS team members of changes to NWSLI entries that include a GOES DCP identifier. When an NWSLI is added to, or removed from a GOES 8 character platform identifier, the HADS team receives an automated e-mail that lists the new/modified NWSLI along with the GOES identifier. With this process in place, HADS technicians quickly and routinely perform actions based upon the e-mail notifications.

NWS field offices may change the content of their user defined reports at any time.
The reports structured by state and/or HSA groups are updated automatically.

If data is missing or incorrect, the following actions should be taken:

The HFP/SH should contact the HADS Network Manager or any HADS Network Technician to determine if he or she is aware of the following:

a. Is the DCP transmitting?
b. Has the DCP been removed or moved from its present location?
c. Has the time of transmission recently been changed or has the DCP been erratic in its transmission time?
d. Has the DCP been reprogrammed recently?

Section 2.4.2 - HADS Network Manager Responsibility

The HADS Network Manager maintains the National HADS network by coordinating with NWS field offices, OSO, NESDIS, and all GOES DCS Cooperators.

The HADS Network Manager is responsible for assisting in identifying new DCPs operating in the NESDIS DCS and adding data sites to the HADS. New DCPs are frequently brought on-line by NESDIS without prior knowledge of NWS personnel. To minimize this problem, the HADS Network Manager monitors the NESDIS operated DAPS system.

PDTs for all DCPs in the DCS are stored on-line as part of DAPS. These records are expected to contain the information needed to define new sites into the HADS network.

Incorrect or Missing Data Values

The HADS Network Manager and HADS Network Technicians receive information about missing data values from the NWS field offices and correct the problems by modifying the HADS data decoding parameters for the site.

HADS Network Technicians employ various HADS tools to search for and correct invalid processed data as well as investigate the causes of missing data. In addition, they monitor updated PDTs daily and communicate with the owner/operators of the DCP to assist in problem resolutions. HADS Network Technicians will also notify the appropriate HFP/SH after the problem is resolved.

Points of Contact

Contact HADS personnel in the Office of Hydrologic Development at any of the following phone numbers.....
301-713-0640
301-713-1543
301-713-1544
301-713-1631
301-713-2493

The following personnel of the Hydrologic Data Systems Branch are available to assist in HADS problem resolution.

Issues regarding missing or incorrect data values of a dcp site:
Larry Cedrone @ extension 108

Lillian Hiner @ extension 164

Lanning Penn @ extension 209

All Network personnel receive can also be contacted via e-mail:
mailto:hadsteam@gateway2.nws.noaa.gov

Issues regarding product distribution, ftp processes for the RFCs, web based interactions and network connectivity:

Brian Jackson @ extension 105

Raymond Chui @ extension 168

HADS programmers and the HADS Program Manager can also be contacted via e-mail:
mailto:hadssystem@gateway2.nws.noaa.gov

Any other issues regarding HADS, contact:

Larry Cedrone @ extension 108 or e-mail: mailto:Lawrence.Cedrone@noaa.gov